

VOLUME 11



Bureau of Alcohol, Tobacco,
Firearms and Explosives

Assistant Director

Washington, DC 20226

www.atf.gov

JUN 06 2017

The Honorable Larry Bucshon, M.D.
U.S. House of Representatives
1005 Longworth House Office Building
Washington, DC 20515

Dear Congressman Bucshon:

This is in response to your inquiry dated April 27, 2017, to the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF), on behalf of your constituent, [REDACTED] Mr. [REDACTED] is concerned about the return of private property belonging to [REDACTED] (hereafter known as [REDACTED]), submitted to ATF's Firearms Technology Industry Services Branch (FTISB) for classification. The property consists of two Bushmaster Model XM15-E2S AR-type firearms, each with an attached, battery powered, motorized pistol grip-type device identified as an Electronic Reset Assist Device (ERAD).

On October 27, 2016, FITSB classified the ERAD as a machinegun pursuant to the National Firearms Act, 26 U.S.C. § 5845(b). [REDACTED] subsequently filed a lawsuit challenging the classification in the United States District Court for the Southern District of Indiana, *see Freedom Ordinance Manufacturing, Inc. v. Thomas E. Brandon*, 3:16-cv-243 (S.D. Ind.). On February 22, 2017, pursuant to Federal discovery laws and ATF internal policy, a litigation hold was issued for the preservation and retention of all documents, records and evidence related to this litigation, which includes the submitted ERADs. The litigation hold will remain in effect until the lawsuit is finally resolved. However, the two submitted Bushmaster Model XM15-E2S AR-type firearms were returned on May 18, 2017 as ATF determined that these particular firearms were not essential to the disputed classification. Our records indicate that these firearms were delivered on May 22, 2017.

We hope this information proves helpful to your constituent. Please let me know if we can be of further assistance.

Sincerely yours,

Christopher C. Shaefer
Assistant Director
Public and Governmental Affairs

5
EVAL.

305-601-

November 22, 2016

VIA FEDERAL EXPRESS NEXT DAY

Michael R. Curtis
Chief, FTISB
United States Department of Justice
Bureau of Alcohol Tobacco Firearms and Explosives
244 Needy Road
Martinsburg, WV 25401

RECEIVED
DEC 05 2016
FATD
EY

Re: [REDACTED]
Ruling Request

WINDHAM WEAPONRY
MOD: W W-15
SN: W W 171280

Dear Mr. Curtis:

[REDACTED] is requesting an opinion concerning [REDACTED] Electronic Reset Assist Device (ERAD) AR trigger system which has been modified from the design of the ERAD that was the subject of FTISB's October 27, 2016 classification ruling in 907010: WJS 3311/304847 -- a copy of which is enclosed. The present ERAD has been specifically modified from the prior submission to address FTISB's stated concerns and ensure that the design is fully in line with all points of bump technology which ATF has already approved. Most significantly, under the present design, no part of the ERAD comes into contact with the trigger of any firearm at any time, and only the operator's trigger finger comes into contact with a firearm's trigger when the ERAD is in use. Attached is a sample and photographs of the ERAD which supports a classification of the ERAD as a non-firearm, and also included are high speed video of both the ERAD and other similar products in operation in the video (in multiple formats) on the enclosed flash drives.

To begin, we do not believe there is any material disagreement among ATF, [REDACTED], or our technical advisor regarding how ATF clarifies the definition of a machinegun and how ATF classifies devices/firearms as machineguns. Specifically:

I. Clarification of Machinegun Definition.

As defined in 26 United States Code, Chapter 53, section 5845(b), the term "machinegun" means any weapon which shoots, is designed to shoot, or can be readily restored to shoot, automatically more than one shot, without manual reloading, by a single function of the trigger. The term shall also include the frame or receiver of any such weapon, any part designed and intended solely and exclusively, or combination of parts designed and intended, for use in converting a weapon into a machinegun, and any combination of parts from which a machinegun can be assembled if such parts are in the possession or under the control of a person.

In order to more fully analyze this statute, we find it helpful to break it out into its constituent parts.

ATF 0687

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A. The term “machinegun” means any weapon which shoots....

As a result, if you have a weapon that when loaded and you pull the trigger it shoots continuously with one conscious pull of the trigger, it is a machinegun capable of automatic fire. This portion is designed to classify any weapon that shoots automatically for whatever reason. If the weapon was originally designed as a semiautomatic weapon and was converted to shoot automatically by some means such as a conversion device, or modifications to the parts of the firearm, then it would fit this portion of the definition.

B. The term “machinegun” means any weapon which is designed to shoot....

Accordingly, if a firearm is made as a machinegun from the factory or modified into a machinegun configuration with design features that allow it to shoot automatically, it is a machinegun. For instance, an M240 or M249 was designed by the manufacturer to have the capability of shooting automatically, and these types of weapons have design features different from semiautomatic variants. These receivers of machineguns will generally accept different parts from a semiautomatic version as in a machinegun sear, or they are straight blowback devices that once you pull the trigger and a cartridge fires, through the inertia of a bolt the firearm cycles and fires again.

C. The term “machinegun” means any weapon which can be readily restored to shoot....

This provision applies to weapons that previously shot automatically because of design features that allowed the weapon to shoot automatically, but in their current condition, do not shoot automatically. However, with minor work they can be put back into the condition in which they can shoot automatically.

D. The term “machinegun” shall also include the frame/receiver of any such weapon.

A firearm receiver with the design features of a machinegun is a machinegun all by itself, even without all of the other parts necessary to actually make the gun fire. Those features are the mechanical design that is imparted into the receiver that allows the firearm to shoot automatically. For example, if an AK47 is stripped and all of the parts are thrown away, the receiver still has the design features to accept an automatic sear, which is the key component to allow automatic fire. As a result, the receiver itself is classified as a machinegun. Similarly, taking a semiautomatic variant receiver without these design features and modifying it into the same configuration as an AK47 would change the classification of the semiautomatic receiver to a machinegun receiver.

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- E. The term “machinegun” includes any part designed and intended solely and exclusively, or combination of parts designed and intended, for use in converting a weapon into a machinegun.**

This provision refers to items commonly called conversion devices. These are generally a modified part of a semiautomatic weapon or a fabricated part that causes the weapon to function as a machinegun. Since the only purpose of these parts is to make a semiautomatic weapon shoot automatically they are classified as machineguns.

- F. The term “machinegun” includes any combination of parts from which a machinegun can be assembled if such parts are in the possession or under the control of a person.**

There are circumstances in which an individual is in possession of everything it takes to fabricate a machinegun but might not actually have put the parts together yet. While parts or plans for a machinegun are not themselves prohibited, a combination of parts, components, plans, and tools from which a machinegun could be assembled can also be considered a machinegun.

Again, we do not believe that there is any disagreement as to any of the above, and all of the above concepts were specifically taken into account by [REDACTED] as it developed the ERAD. Moreover, the development of the ERAD has also taken many other items, issues, and guidance into account, including the Fifth Circuit court opinion regarding the attachment of an electric fishing reel to a weapon (which when activated with a switch fired the weapon and was deemed to be a machinegun), the published 2006-2 ruling relating to the Akins accelerator, and the opinions relating to the [REDACTED] and other devices that enhance, but do not change the character of, semiautomatic fire. In short, [REDACTED] has diligently researched and understood the applicable principles, as well as specifically designed a device to be in accordance with them.

II. Operating Principle.

The ERAD is composed of a mechanism that floats inside the raceway of the trigger housing and which rides on a cam that is attached to the electric motor in the grip housing. As the motor turns, the cam lobe pushes the trigger reset bar forward. The ERAD does not ever engage the trigger during its operation. Instead, it engages the trigger finger, which when consciously and deliberately pulled, engages the trigger. In fact, the exact function of the ERAD is to push the trigger finger forward, when the firing sequence is initiated, rather than pull the trigger rearward. Since it is a completely self-contained system that does not engage the trigger, hammer, or disconnector, ERAD functions to do nothing more than push the trigger finger forward, and the firearm will only fire a second round as a result of the direct force of the trigger finger directly onto the trigger initiating the firing sequence again. Thus, the modification of the ERAD from that addressed in FTISD’s October 27, 2016 letter eliminates the “primary trigger”/“secondary trigger” addressed in such.

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Once the user consciously and deliberately pulls the trigger and simultaneously engages the electric switch, the ERAD activates the trigger finger reset mechanism, and the reset bar applies only forward tension to the trigger finger. The ERAD cannot under any circumstances apply rearward tension to the trigger finger, the trigger itself, and/or any other part of the operating mechanism. Thus, the shooter pulls the trigger sufficiently to activate the firing sequence, and the trigger finger reset bar then propels the trigger finger forward away from the firearm trigger, actually clearing the trigger such that the trigger moves fully forward and there is a gap between the reset bar and the trigger itself. Accordingly, the trigger, hammer, and disconnecter continue to function exactly as originally designed.

Because the shooter is consciously and deliberately applying rearward pressure to fire the firearm, the shooter must similarly overcome the forward pressure of the trigger finger reset bar to fire the weapon. As long as the shooter continues to apply conscious and deliberate rearward pressure to the reset bar, it will continue to fire one shot per pull of the trigger. The trigger finger reset bar is not the trigger, nor does it come into contact with the trigger, nor can it activate the firing sequence. Rather, it is the shooter's conscious and deliberate pull of the trigger directly causes the weapon to fire. The enclosed high speed video clearly confirms that the ERAD is not a machinegun under any definition set forth above, and it also demonstrates that, rather than the trigger reset bar, only the shooter's trigger finger contact's the gun's trigger when the weapon is fired. In fact, the device cannot be made to function any other way.

That the ERAD is not a machinegun is also demonstrated by a simple and obvious test regarding the device's achievable rate of fire. Because the finger reset device causes the trigger finger to completely disengage from the trigger (with the resulting gap between the trigger face and the reset bar that is seen on the video), the unavoidable portions of a second that are lost when the trigger is completely disengaged, allows an AR with the ERAD installed to achieve only between a 400 to 450 rounds per minute rate of fire. In comparison, both the TacCon trigger and the [REDACTED] advertise a 600+ rounds per minute rate of fire, which these devices are able to achieve because the trigger finger is never disengaged from the trigger and once the trigger is allowed to reset on the hammer, the firing sequence continues without the interruptions inherent in the design and operation of the ERAD.

III. Classifications

Many decisions classifying trigger actuating devices are based on the 2006-2 Akins Accelerator ruling and the Fifth Circuit court opinion on the electrically-powered fishing reel attached to a firearm. The following is an excerpt on how the Akins Accelerator operates, and it is taken directly from ATF Ruling 2006-2:

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ATF has examined several firearms accessory devices that are designed and intended to accelerate the rate of fire for semiautomatic firearms. One such device consists of the following components: two metal blocks; the first block replaces the original manufacturer's V-Block of a Ruger 10/22 rifle and has attached two rods approximately $\frac{1}{4}$ inch in diameter and approximately 6 inches in length; the second block, approximately 3 inches long, $1\frac{3}{8}$ inches wide, and $\frac{3}{4}$ inch high, has been machined to allow the two guide rods of the first block to pass through. The second block supports the guide rods and attaches to the stock. Using $\frac{1}{4}$ inch rods, metal washers, rubber and metal bushings, two collars with set screws, one coiled spring, C-clamps, and a split ring, the two blocks are assembled together with the composite stock. As attached to the firearm, the device permits the entire firearm (receiver and all its firing components) to recoil a short distance within the stock when fired. A shooter pulls the trigger which causes the firearm to discharge. As the firearm moves rearward in the composite stock, the shooter's trigger finger contacts the stock. The trigger mechanically resets, and the device, which has a coiled spring located forward of the firearm receiver, is compressed. Energy from this spring subsequently drives the firearm forward into its normal firing position and, in turn, causes the trigger to contact the shooter's trigger finger. Provided the shooter maintains finger pressure against the stock, the weapon will fire repeatedly until the ammunition is exhausted or the finger is removed. The assembled device is advertised to fire approximately 650 rounds per minute. Live-fire testing of this device demonstrated that a single pull of the trigger initiates an automatic firing cycle which continues until the finger is released or the ammunition supply is exhausted.

(emphasis added). All of these previously evaluated devices, however, have one thing in common; that is, they operate the trigger of the firearm. The ERAD, however, is merely a trigger finger reset device that is neither affixed to the trigger nor impacts the trigger in any way. It simply pushes the shooter's trigger finger off of the trigger allowing the natural reflex of pulling the trigger to happen in a rapid movement.

IV. Conclusion.

██████ is respectfully asking for a secondary review of the ERAD trigger finger reset device based on the high speed video being providing and on this clarification of how the device can and does operate. Specifically, the ERAD:

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- ☐ Is not a trigger firing system that is operated by electricity.
- ☐ Is not a trigger reset device such as the TacCon trigger.
- ☐ Is not a bump fire device as the [REDACTED].
- ☐ Is not a hydraulic or spring actuated trigger that allows the weapon to fire with one pull of the trigger.
- ☐ It does not touch the trigger, hammer, or disconnecter at any time.

On the other hand, the ERAD:

- ☐ Is a trigger finger reset device that uses battery power to force the reset device, along with the trigger finger, forward "completely" off of the trigger in a rapid manner.
- ☐ Removes the rearward pressure created by the pull of the trigger to rapidly come away from the trigger.
- ☐ With no opposing force on the trigger allows the trigger to reset to the firing position rapidly and under normal spring tension.
- ☐ The natural, conscious, and deliberate force of the shooter's finger being applied to the trigger directly pulls the trigger again.
- ☐ This sequence is repeated allowing the shooter to pull the trigger approximately 400 times per minute.

Accordingly, the ERAD is not a machinegun because it is not designed as a machinegun, nor is it a part designed and intended to convert a semiautomatic firearm into a machinegun, nor does it meet any other portion of the statutory definition of machinegun.

If you have any questions and/or require any further information, please do not hesitate to contact Scott L. Braum [REDACTED] or Richard Vasquez [REDACTED]. [REDACTED] would also welcome the opportunity to meet with you in person in order to provide whatever other details you may require.

Otherwise, we thank you for accepting this submittal, and we look forward to hearing from you in the near future.

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Very truly yours,

[REDACTED]

Enclosures: Two flash drives
Patent documents
ERAD Sample

cc: Scott L. Braum
Rick Vasquez

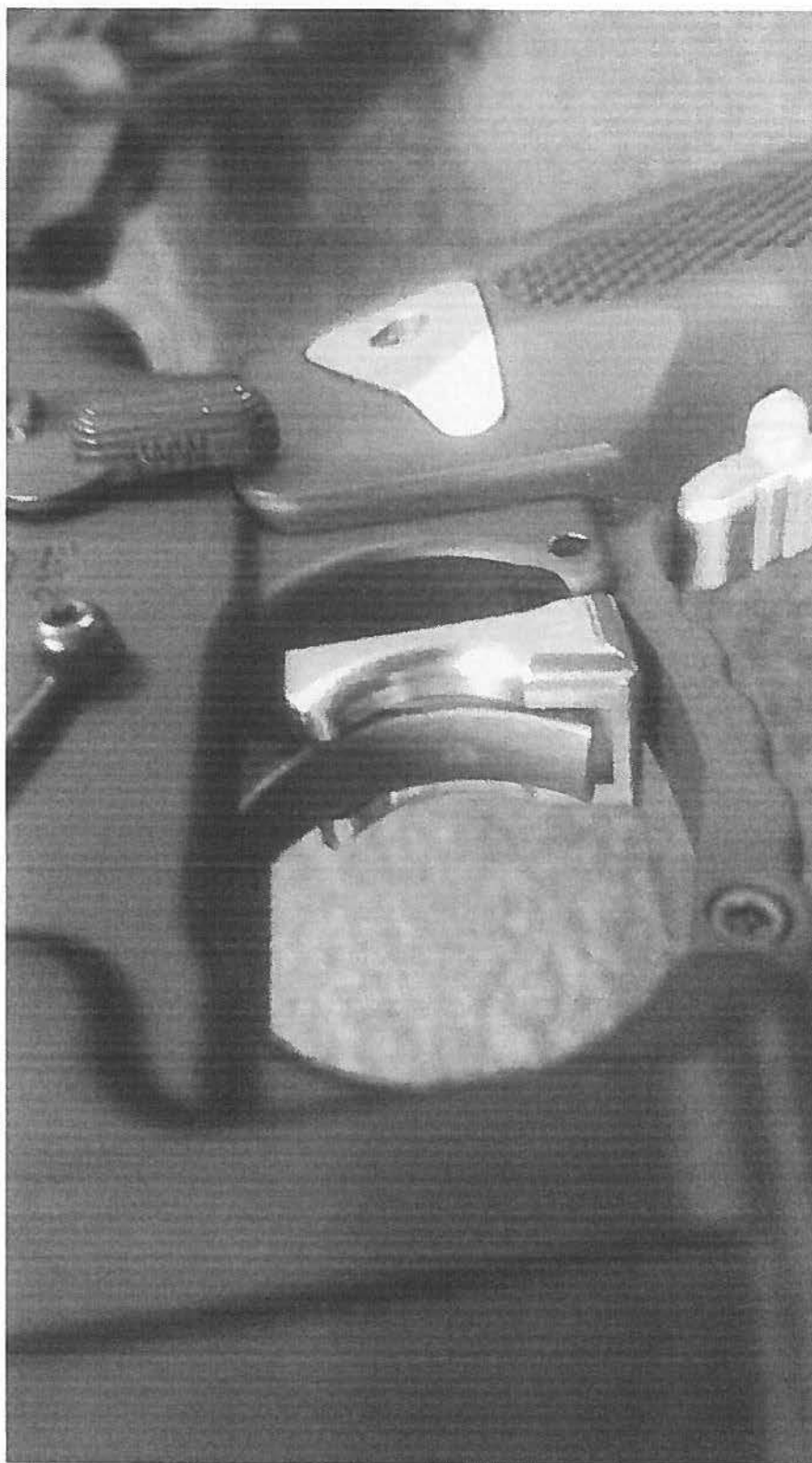
SHIPPED FROM:

[REDACTED]



ATF 0694





ATF 0696





ATF 0698



U.S. Department of Justice

Bureau of Alcohol, Tobacco,
Firearms and Explosives

Martinsburg, WV 25405

www.atf.gov

OCT 27 2016

907010: WJS
3311/304847

Dear [REDACTED]

This is in reference to your recent submission and accompanying correspondence and supplemental video to, the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF), Firearms Technology Industry Services Branch (FTISB) which is accompanied by two AR-type firearms, each with a battery powered, motorized pistol grip-type device attached (see enclosed photos).

As you know, the National Firearms Act (NFA), 26 U.S.C. § 5845(b), defines the term "**machinegun**" as—

...any weapon which shoots, is designed to shoot, or can be readily restored to shoot, automatically more than one shot, without manual reloading, by a single function of the trigger. The term shall also include the frame or receiver of any such weapon, any part designed and intended solely and exclusively, or combination of parts designed and intended, for use in converting a weapon into a machinegun, and any combination of parts from which a machinegun can be assembled if such parts are in the possession or under the control of a person.

The submitted device is identified as an "E-RAD". As a part of this description you note that the submitted device is a "*total redesign*" that has been test fired "*with thousands of rounds fired*"... "*and another thousand rounds with zero hammer follow*". Further, you describe the device in the accompanying video which would permit the host weapon to fire at a cyclic rate of approximately 400-450 rounds per minute. Also, we should note, the .22 LR caliber, S&W M&P-22 firearm with attached E-RAD device, featured in your accompanying video, was not evaluated by FTISB as a part of this evaluation.

The first sample examined by FTISB personnel, attached to Bushmaster Model XM150E2S, serial number BK1700801, consists of a plastic or polymer "grip" attached to the host AR-type receiver by a metal cap screw. The grip is assembled utilizing six machine cap screws. A metal button was observed just below the trigger guard of the host weapon. This metal button, when depressed, initiates function of the battery-powered motor contained within the E-RAD grip.



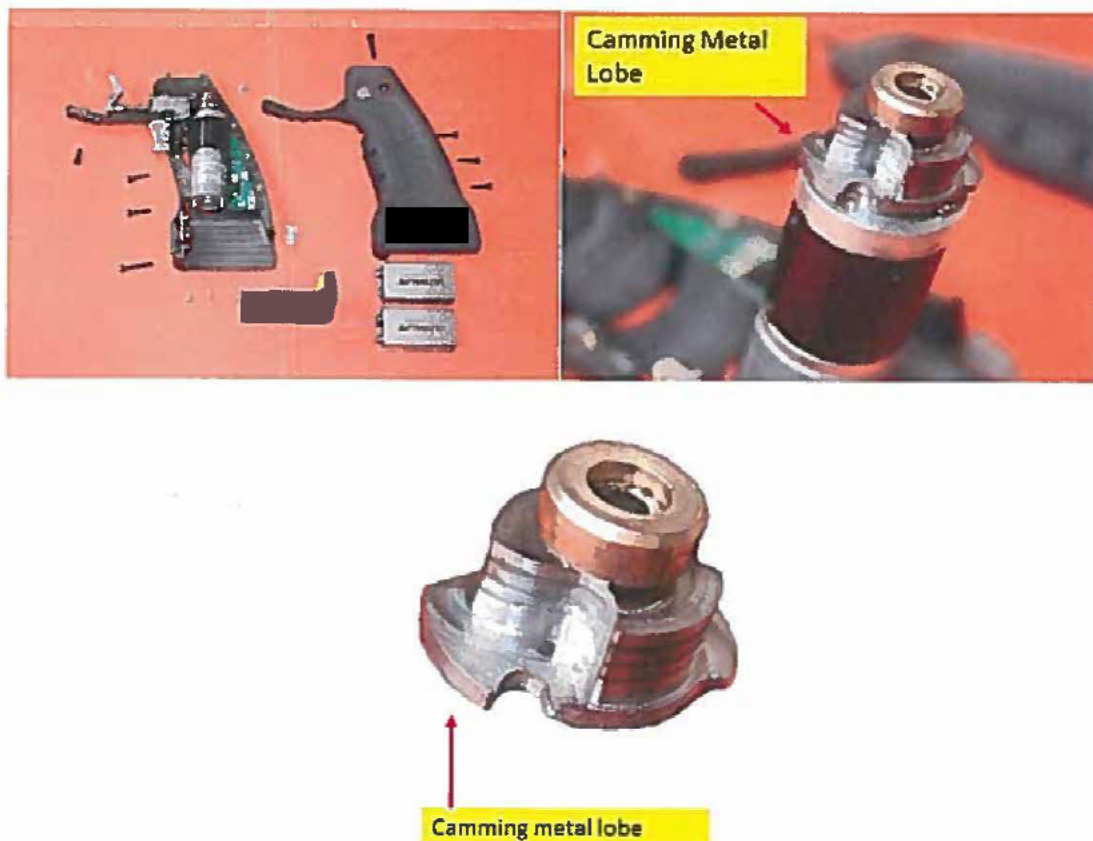
An additional metal component was observed as a part of the E-RAD grip. For the purpose of this examination, this component will be identified as the E-RAD primary trigger, which rests below and in front of the AR-type trigger and is driven by the battery-powered motor.

For the purpose of this examination, the AR-type trigger will be identified as the secondary trigger because it merely becomes a part of the firing sequence, but does not initiate firing when the E-RAD is installed. FTISB personnel also noted two 9-Volt batteries located at the bottom of the grip. This battery can be removed via a metal battery cover release found on the rear of the E-RAD grip assembly.

FTISB disassembled the E-RAD device to observe the internal components and dimensions. The submitted grip assembly incorporated the following design features or characteristics (see enclosed photographs):

- 12 Volt 6000RPM, Electric Motor.
- Primary Trigger.
- Battery powered, camming metal lobe designed to interact with primary trigger.
- (2) 9-Volt Batteries.
- Right and Left Grip Panels.

The disassembled device is shown below:



FTISB personnel noted the Bushmaster, Model XM15-E2S AR-type firearm, serial number **BK1700801** incorporates semiautomatic configured fire-control components with no modifications made to the frame or receiver to permit machinegun function. A field function test of the aforementioned firearm found the host firearm functions as designed, as a semiautomatic rifle.

As a part of this examination, FTISB personnel test-fired the E-RAD utilizing commercially available Remington and PMC brands of .223 Remington caliber ammunition and an accompanying compatible magazine. A Bushmaster, Model XM15-E2S AR-type firearm, serial number BK1700801 was fired by FTISB personnel as received.

During this test-fire portion of the examination, our Branch observed machinegun function six times. FTISB found the depression or pull of the grip button *alone*, does not initiate the firing sequence and consequently does not permit the host firearm to expel a projectile by the action of an explosive.

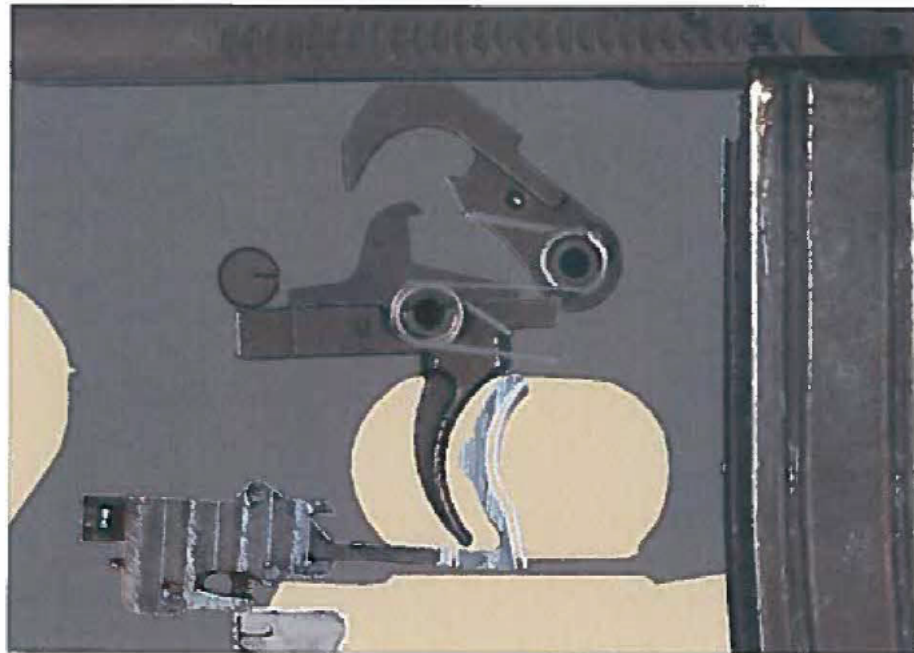
Upon closer examination of the device interacting with the semiautomatic fire-control components, FTISB personnel did not observe "hammer-follow". However, with the grip button depressed and constant pressure applied to the E-RAD primary trigger, the hammer is released from the secondary trigger sear surface, travels forward and strikes the firing-pin, thus expelling a projectile by the action of an explosive. Then, once the hammer moves to the rear, the hammer is *briefly* retained by the disconnecter until the

motorized camming metal lobe moves forward and pushes or forces the primary trigger forward, thus releasing the hammer which is then retained by the secondary trigger sear surface for a subsequent shot to be fired.

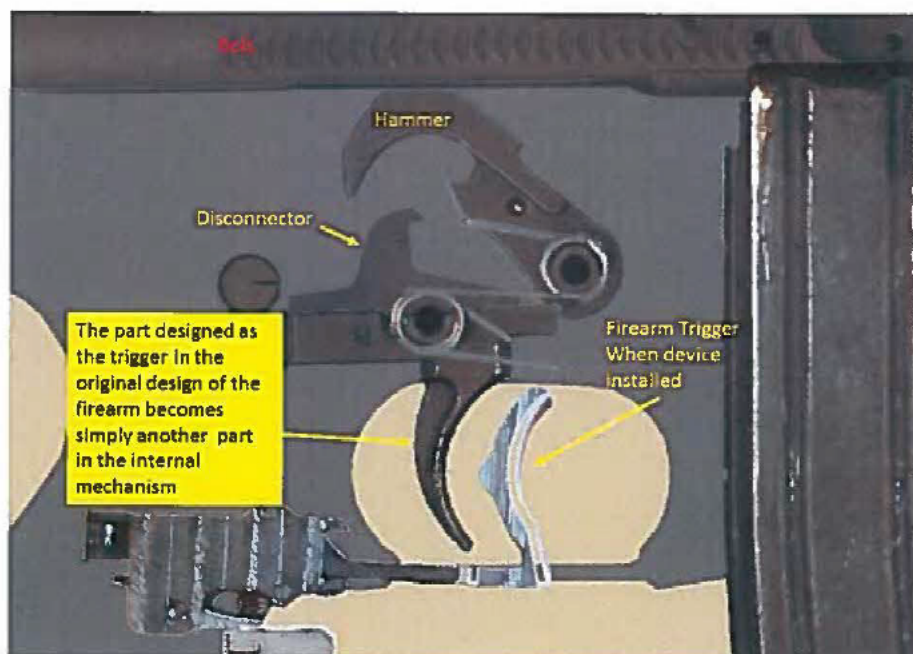
Our Branch found that after the initial pull of the primary trigger, the host firearm does not incorporate “hammer follow” function by ensuring a brief disconnecting or secondary trigger resetting feature. However, although the E-RAD grip does not incorporate machinegun function by “hammer-follow”, with the grip button pulled, the firing sequence is initiated by a pull of the primary trigger and perpetuated *automatically* by shooter’s constant pull and the reciprocating, battery-powered metal lobe repeatedly forcing the primary trigger forward. We found that during the aforementioned testing, if the primary trigger was *pulled and released* deliberately and quickly, with or without the grip button engaged; a single shot could be fired for each single pull of the trigger.

The firing sequence is shown on the following pages.

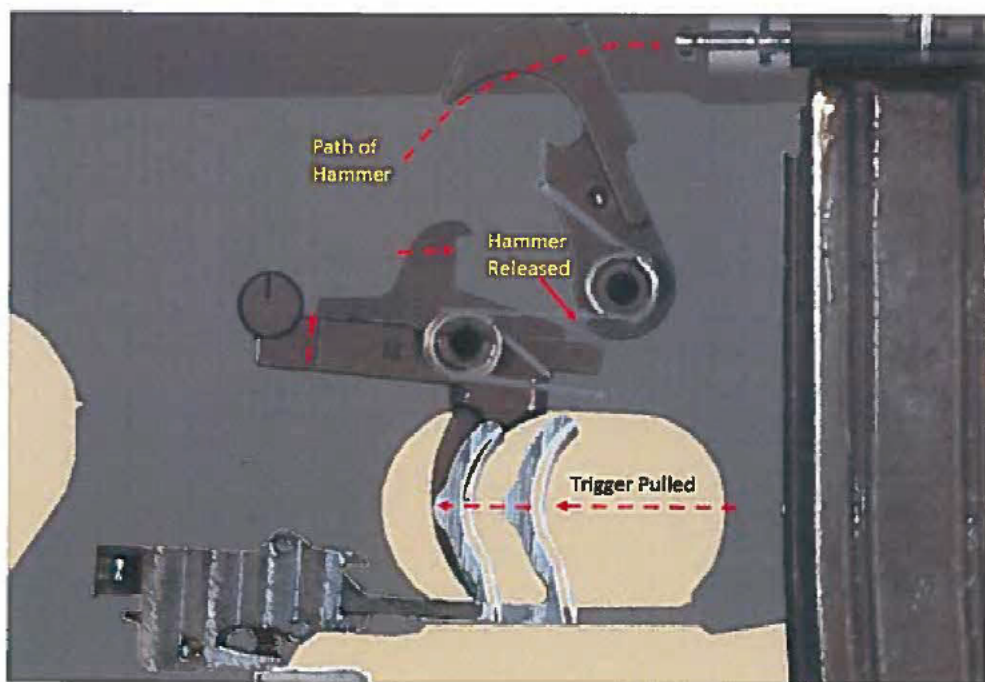
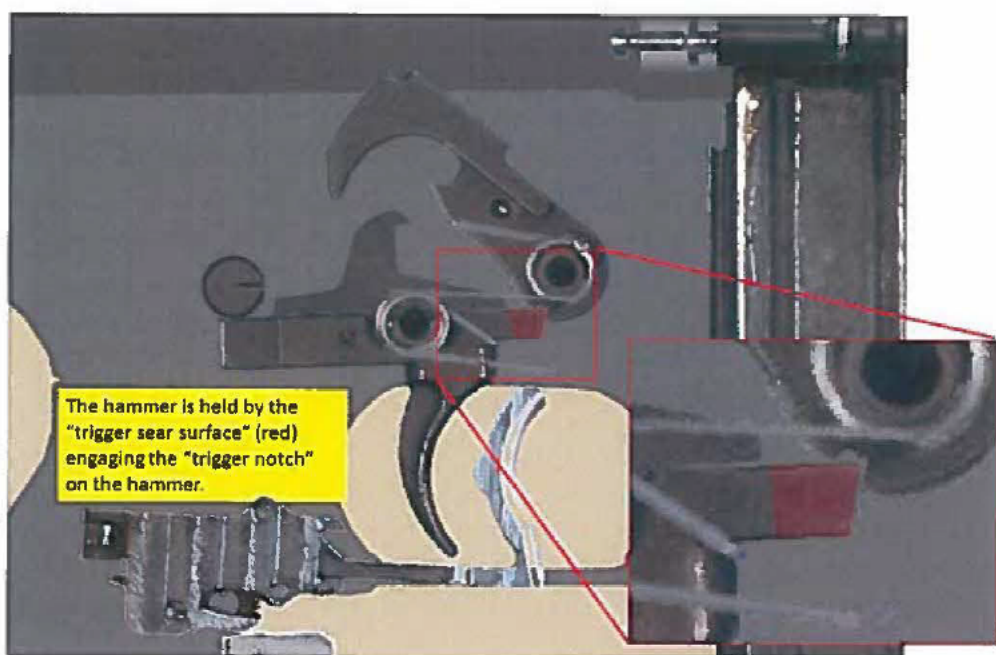


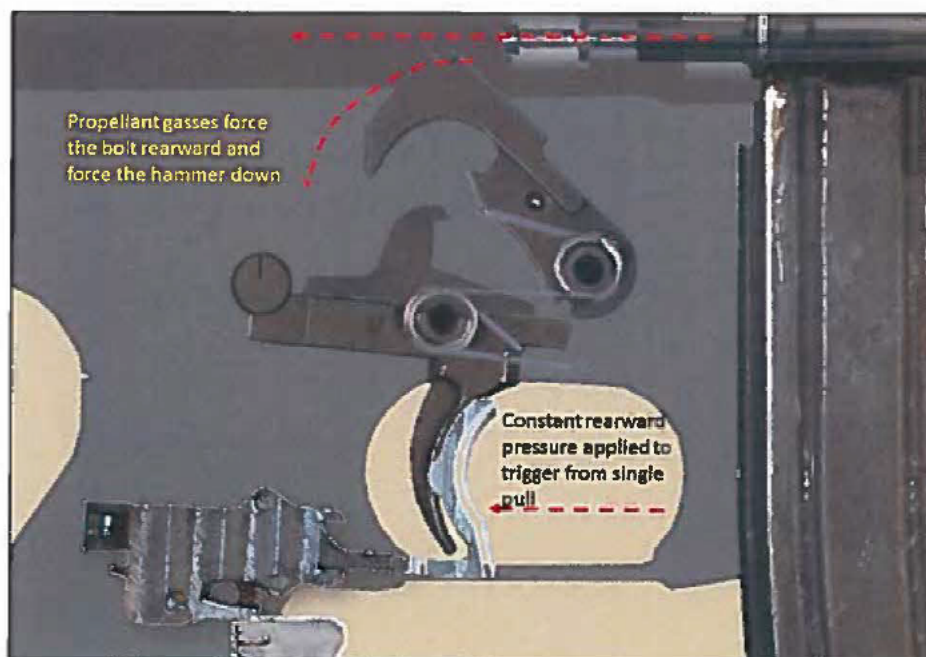
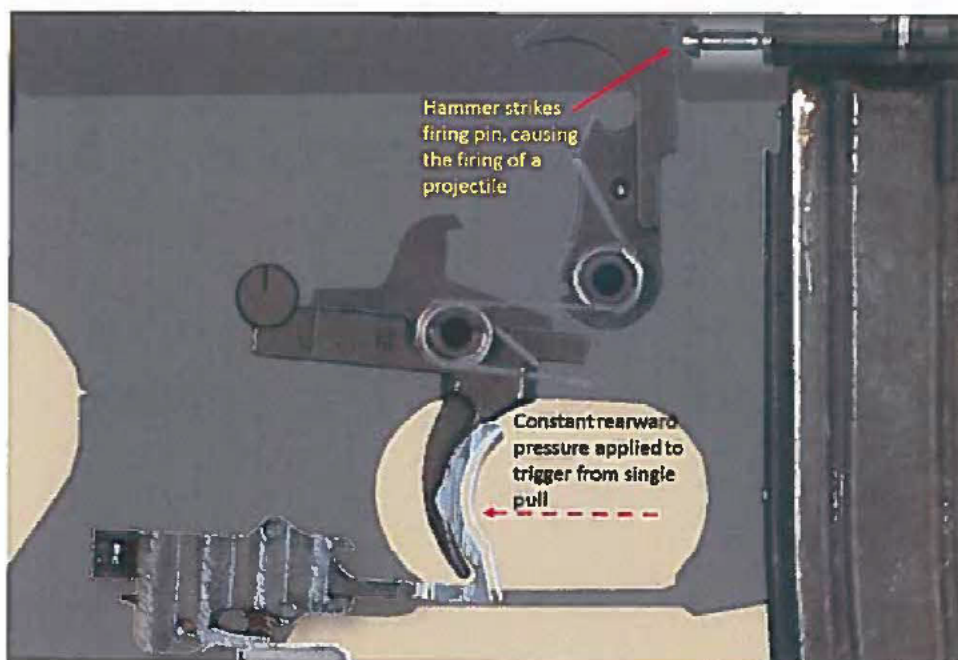


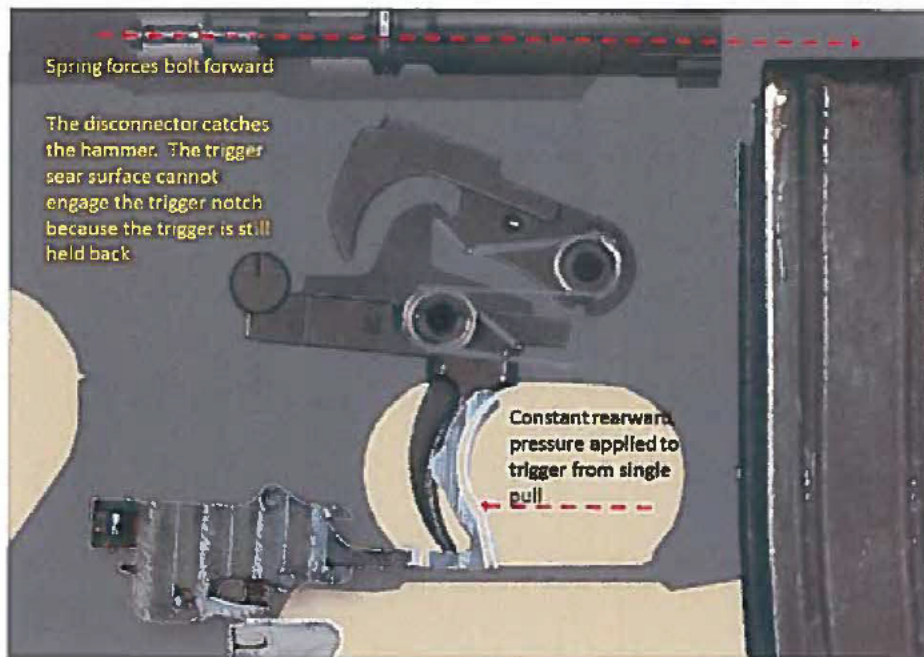
The internal components are shown here. This is as they appear prior to firing. A trigger is any part of the firearm that causes the firearm to discharge or starts the firing process. Therefore although a semiautomatic firearm has a trigger, that it not the part that starts the firing process when the E-RAD is installed. See here:



Prior to firing, the hammer is retained by the secondary trigger. The secondary trigger sear surface engages with the trigger notch, and holds the hammer until the trigger is pulled, releasing the hammer.

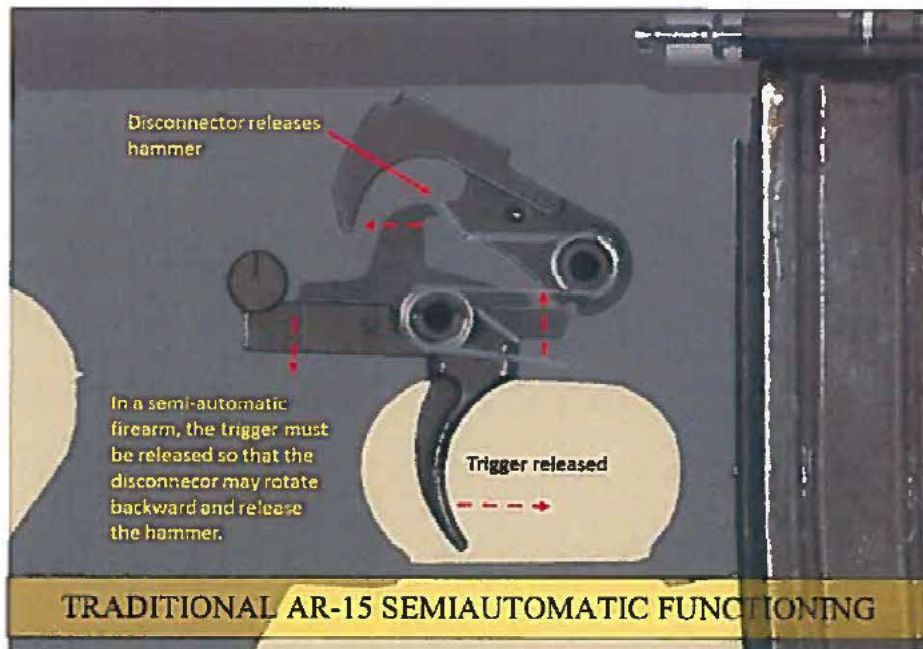




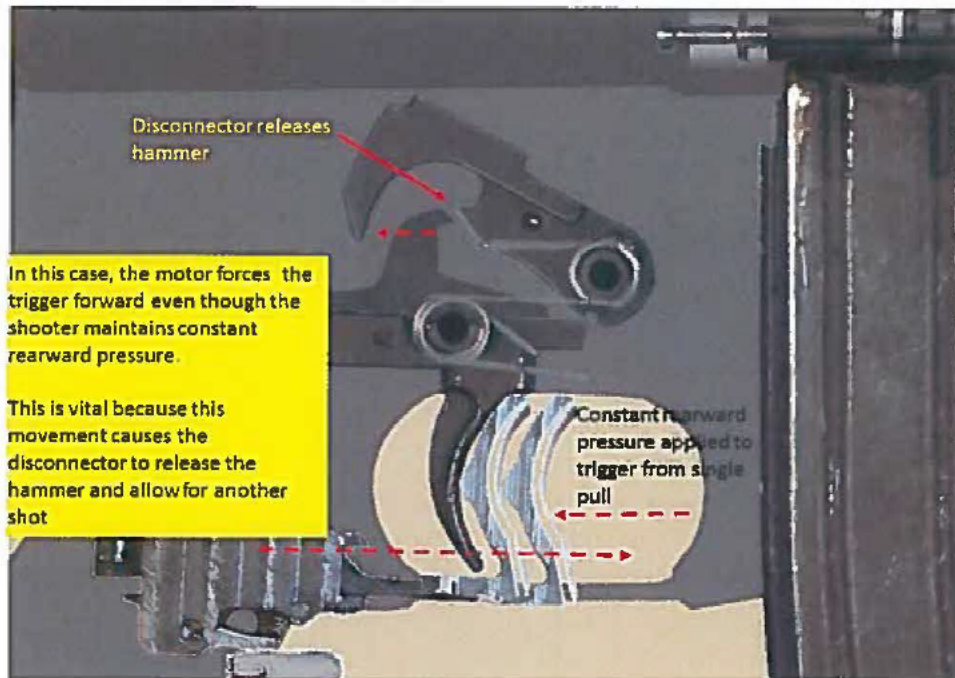


Here the bolt moves to the rear and pushes the hammer down. The disconnecter catches and retains the hammer, thus preventing "hammer follow" in which the hammer simply moves forward again with the bolt and fires a second round.

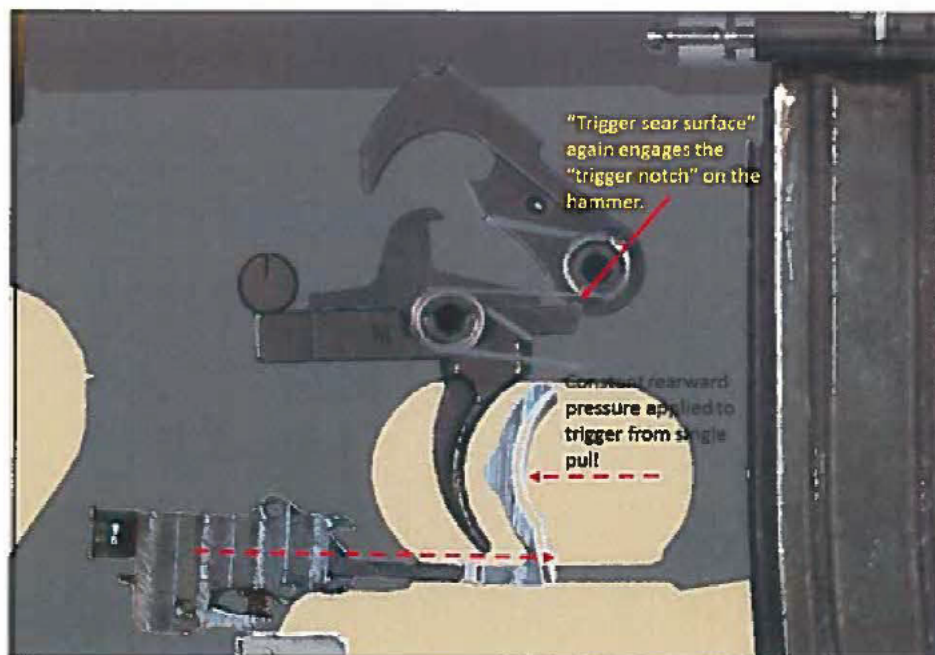
In a firearm without the E-RAD installed, the hammer resets only when the shooter actually releases pressure on the trigger, thereby allowing the disconnecter to release the hammer. See below.

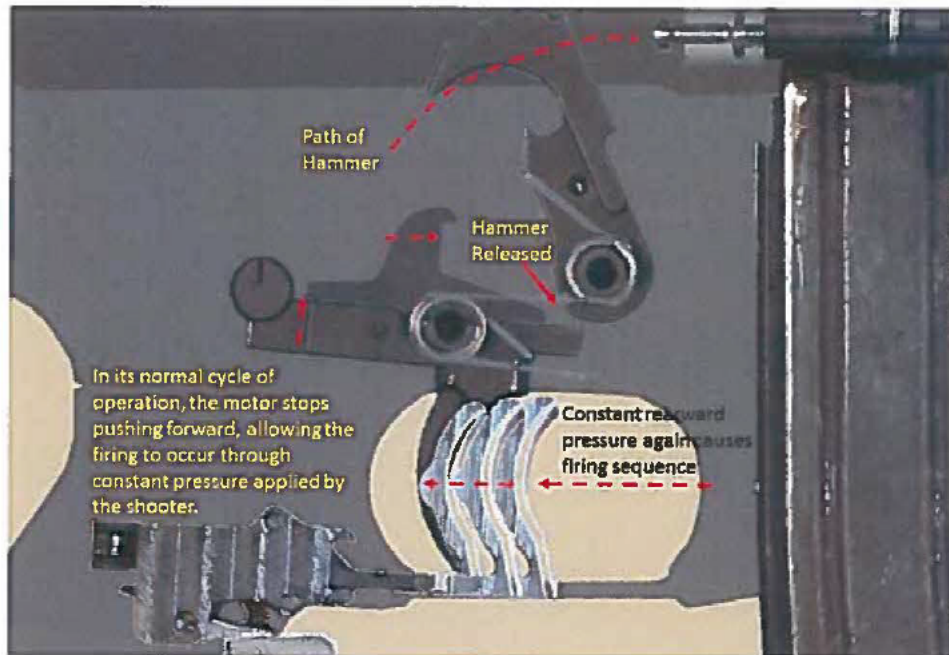


In firearms *with* the E-RAD installed, the functioning differs at this point. The E-RAD eliminates any need for a shooter to release the trigger to reset the hammer. As shown here, the motor acts to reset the hammer, not the shooter.

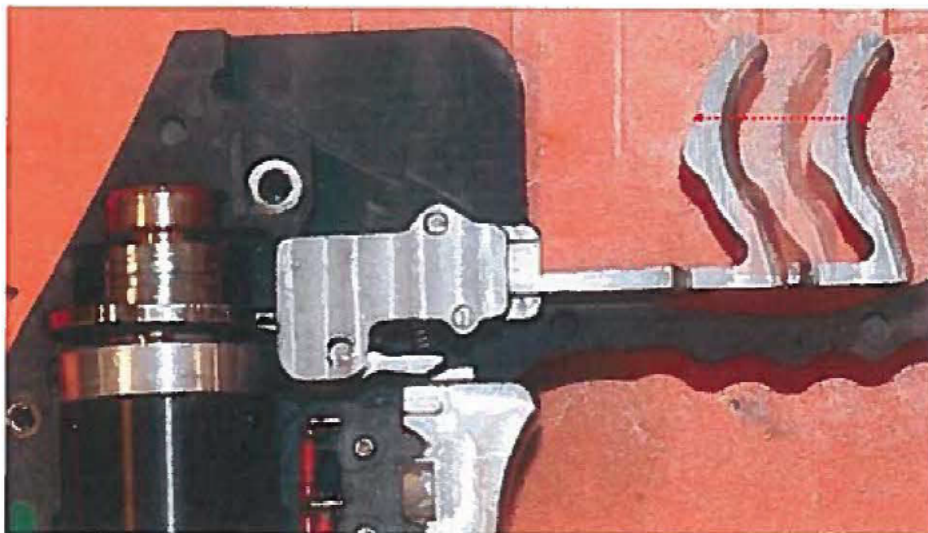


The hammer is now reset as it is again engaged by the secondary trigger sear surface. However, through this process, the shooter has never released the primary trigger itself, instead applying a constant pull. When the camming metal lobe stops forward pressure, the shooter's constant pull releases the hammer and causes a second round to fire. See below.





A single pull of the trigger by the shooter therefore starts a firing sequence in which *semiautomatic* operation is made *automatic* by an electric motor. ATF has long held that a single pull of the trigger is the same as a “single function” of the trigger. Similarly, a single release of the trigger is a single function of the trigger. In the E-RAD design, after the shooter pulls the primary trigger, the motor causes the shooter’s finger to be pushed forward, *but the shooter does not release the trigger*. Once the firearm automatically resets, the motor stops pushing forward and the shooter’s single, constant pull of the primary trigger results in firing a second projectile. The firing sequence continues until the shooter releases the primary trigger or the firearm exhausts the ammunition supply.



As a result of the subject test weapon firing more than one shot, without manual reloading, by a single function of the trigger with the submitted device installed, the submitted device found attached to the submitted Bushmaster, Model XM15-E2S AR-type firearm, serial number BK1700801, is classified as a combination of parts designed and intended, solely and exclusively for use in converting a weapon into a machinegun and thus a “**machinegun**” as defined in 26 U.S.C. 5845(b).

Our Branch has evaluated devices similar to your previous submission, (FTISB letter dated March 23, 2016) which have prevented the trigger from positively resetting and resulted in a “hammer-follow” scenario. If a device is designed as to assist in preventing the hammer from positively resetting, such an item could cause a firearm to shoot automatically more than one shot, without manual reloading, by a single function of the trigger, and would be classified as a combination of parts designed and intended, solely and exclusively, for use in converting a weapon into a machinegun; thus a “**machinegun**” as defined in 26 U.S.C. 5845(b).

FTISB finds that the host AR-type rifle, Bushmaster AR-type receiver (serial number **BK1700801**), not having any modifications made which would cause it to fire automatically, or incorporating the frame or receiver of a machinegun; is not a “**machinegun**” as defined in 26 U.S.C. 5845(b).

The second sample examined by FTISB personnel, attached to Bushmaster Model XM150E2S, serial number **BK1700814** and consists of a plastic or polymer E-RAD “grip” attached to the host AR-type receiver by a metal cap screw. The grip is assembled utilizing six machine cap screws. A metal button was observed just below the trigger guard of the host weapon. You state in your accompanying correspondence that the aforementioned “grip is identical” to the grip observed attached to Bushmaster rifle serial number BK1700801. We believe this to be the case as we found that the device operates in the same way as the device described above.

The grip button initiates function of the battery-powered motor contained within the E-RAD grip. A metal primary trigger was observed as a part of the E-RAD grip. The primary trigger rests below the AR-type trigger and is driven by the battery-powered motor. FTISB personnel also noted two 9-Volt batteries located at the bottom of the grip. These batteries can be removed via a metal battery cover release found on the rear of the E-RAD grip assembly. This device appears similar in design and construction to the device attached Bushmaster, Model XM15-E2S AR-type firearm, serial number BK1700801.

FTISB personnel noted the Bushmaster, Model XM15-E2S AR-type firearm, serial number BK1700814 incorporates semiautomatic configured fire-control components with no modifications made to the frame or receiver to permit machinegun function. A field function test of the aforementioned firearm found the host firearm functions as designed, as a semiautomatic rifle.

As a part of this examination, FTISB personnel test-fired the submitted item utilizing commercially available Remington and PMC brands of .223 Remington caliber ammunition and an accompanying compatible magazine.

Bushmaster, Model XM15-E2S AR-type firearm, serial number BK1700814 was fired by FTISB personnel as received. During this test-fire portion of the examination, our Branch observed machinegun function six times. FTISB found the depression or pull of the grip button alone, does not initiate the firing sequence and consequently does not permit the host firearm to expel a projectile by the action of an explosive.

Upon closer examination of the device interacting with the semiautomatic fire-control components, FTISB personnel observed one instance of "hammer-follow" denoted by light primer indentations on the PMC brand ammunition.

With the device's grip button depressed and constant pressure is applied to the E-RAD trigger, the hammer is released from the secondary trigger sear surface and travels forward, strikes the firing-pin, thus expelling a projectile by the action of an explosive. Then, once the hammer moves to the rear, the hammer is *briefly* retained by the disconnecter until the motorized primary trigger moves forward and pushes or forces the operator's finger forward, thus releasing the hammer for a subsequent shot to be fired.

Our Branch found that after the initial pull of the primary trigger, the device is designed to safeguard against the host firearm incorporating "hammer follow" function by ensuring a brief disconnecting or trigger resetting feature. As noted previously, this second weapon with the E-RAD grip incurred one instance of machinegun function by "hammer-follow". Due to this malfunction, FTISB terminated the test fire portion of the evaluation.

The E-RAD grip is designed to operate with the grip button depressed, the firing sequence is initiated by the first or single pull of the primary trigger and perpetuated *automatically* by the reciprocating, battery-powered metal lobe, repeatedly forcing the primary trigger finger forward. We found that during the aforementioned testing, if the primary trigger was pulled and released deliberately and quickly, with or without the grip trigger pulled a single shot could be fired for each single pull of the trigger.

As a result, the subject test weapon firing more than one shot, without manual reloading, by a single function of the trigger with the submitted device installed, the submitted device found attached to the submitted Bushmaster, Model XM15-E2S AR-type firearm, serial number **BK1700814**, is classified as a combination of parts designed and intended, solely and exclusively for use in converting a weapon into a machinegun and thus a "machinegun" as defined in 26 U.S.C. 5845(b).

Please be aware, the incorporation of a positive disconnecting or trigger resetting feature alone, does not preclude or remove such a weapon or device from the definition of a "machinegun" as defined in NFA, 26 U.S.C. § 5845(b). Further, the absence of "hammer-

follow” in an AR-type firearm, does not exclude such a firearm from being classified as a machinegun.

FTISB machinegun classifications are based on the evaluation of the item(s) as submitted and whether the item converts a weapon to shoot automatically, regardless of how reliably it shoots automatically more than one shot, without manual reloading, by a single function of the trigger.

The host Bushmaster rifles will be returned via the accompanying prepaid UPS return label. Please advise our Branch within 60 days of receipt of this letter regarding the disposition of subject E-RAD devices. The submitted devices, which are each classified as a “machinegun” as defined in 26 U.S.C. 5845(b), cannot be returned to unless you are a licensed firearms manufacturer who has paid the Special Occupational Tax (SOT).

We trust the foregoing has been responsive to your current evaluation request.

Sincerely yours,



Michael R. Curtis

Chief, Firearms Technology Industry Services Branch

Enclosure

RECEIVED
APR 28 2016
BY. FATD

To: F.T.I.S.B. Personnel in reference to
907010: WJS
3311/304248

EVAL. 304-847-WJS

Thank you for evaluating our first prototype and bringing the issues to our attention. We have worked very hard to correct those issues.

This new sample prototype is a total redesign with hundreds of hours and thousands of rounds fired. Once the current design had been finalized we fired another thousand rounds with zero hammer follow. Our goal is to give F.T.I.S.B. The very best sample possible. We have included two identical samples, we recommend test firing both units before disassembly. Please see enclosed dvds for video demonstrations of live firing and disassembly. If for any reason the dvds do not work in your dvd player we are including links to watch the videos online. Thank you for your time and evaluation of our samples. We have provided return shipping labels for the samples and evaluation letter for your convenience.

If you need to contact us for any reason please feel free our contact information is provided below.

Semper Fi,
[REDACTED]

Video for live fire demonstration [REDACTED]
Video for disassembly and reassembly [REDACTED]

Bushmaster Model XM15-E2S SN: BK1700814

Bushmaster Model XM15-E2S SN: BK1700801

P.S.

We have included (4) Extra 9volt Lithium ion Batteries these Batteries have more Amperage then a standard 9volt alkaline Battery. Typically these Lithium ion Batteries Allow for 1,500 - 1,800 Strong resets Before Loosing their Amperage.



U.S. Department of Justice

Bureau of Alcohol, Tobacco,
Firearms and Explosives

EVAL. 304-847-WJS

Martinsburg, WV 25405

www.atf.gov

907010: WJS

3311/304248

MAR 23 2016

RECEIVED
APR 28 2016
BY: FATD

Dear [REDACTED]

This is in reference to your submission and accompanying correspondence to, Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF), Firearms Technology Industry Services Branch (FTISB) which is accompanied by an AR-type firearm with a battery powered, motorized pistol grip-type device attached (see enclosed photos).

As you know, the National Firearms Act, 26 U.S.C. § 5845(b), defines the term “**machinegun**” as—

...any weapon which shoots, is designed to shoot, or can be readily restored to shoot, automatically more than one shot, without manual reloading, by a single function of the trigger. The term shall also include the frame or receiver of any such weapon, any part designed and intended solely and exclusively, or combination of parts designed and intended, for use in converting a weapon into a machinegun, and any combination of parts from which a machinegun can be assembled if such parts are in the possession or under the control of a person.

The submitted device, as you describe, is a “trigger reset device.” You further describe the design and function of this device “does not alter the cycle of operation of firing the semi-automatic firearm, which is widely known and again is not altered by the present invention.” As a part of this description you note that the submitted device is a prototype and will be developed into a “more compact and ergonomic” design.

The sample examined by FTISB personnel consists of a non-ferrous metal “grip” attached to the host AR-type receiver by two roll-pins. The grip is assembled utilizing three machine cap screws. A plastic switch marked “1” and “2,” partially wrapped in black tape, was observed on

[REDACTED]

the left side of the grip device. A button was observed located at the rear of the grip device with the hand-scribed marking "**Push Button**" in black ink. At the rear of the device, an electrical A/C charging port was observed with "**Charging Port**" hand-scribed in black ink and a hand-scribed arrow pointing toward the electrical port.

FTISB personnel noted this device is attached to a Bushmaster Model XM15-E2S AR-type receiver with a complete buttstock assembly, serial number **BK1700801**. This firearm is devoid of a complete upper assembly. Semiautomatic fire-control components were installed in the host firearm. A field-function test of the host firearm found that it functions as designed, as a semiautomatic firearm. However, upon closer examination of the host firearm receiver, the top of the disconnecter was found to be deformed.

As a part of this examination, FTISB personnel test fired the submitted item utilizing a complete AR-type upper assembly obtained from the ATF National Firearms Collection incorporating a barrel chambered in 5.56mm. With the submitted device attached and the device selector switch in the down or "2" position, our Branch noted two instances of machinegun function. During this testing, light primer indentations were observed on several of the un-fired test ammunition.

When the trigger was pulled slowly with the device actuated, hammer-follow was observed. Hammer-follow is caused when the hammer does not positively reset and, as a result, the hammer rides or follows the bolt carrier forward. This was found to be caused by the metal reciprocating anvil, driven by the electric motor found in the device grip, deliberately blocking a positive disconnecting function within the fire-control components.

FTISB personnel observed this hammer-follow function twice during the evaluation. Our Branch also determined the deformed disconnecter was a result of over-travel of the hammer due to the presence of a hammer-follow situation within the firing sequence.

We found that during the aforementioned testing, if the trigger was pulled and released deliberately and quickly, a single shot was fired for each single pull of the trigger. A test-fire was also attempted with the device selector in the determined up or "1" position; however, the device stopped working.

After three metal caps screws were removed from the grip assembly, FTISB personnel observed that the upper portion of the motor became disconnected from the lower portion. During this internal examination, a battery was observed in the lower horizontal portion of the grip device. FTISB personnel did not attempt to repair the device. The grip device was reassembled and found to work *intermittently* while removed from the host Bushmaster firearm. Due the aforementioned deficiency, FTISB personnel terminated testing of the submitted device.

As a result of the test weapon firing more than one shot, without manual reloading by a single function of the trigger with the submitted device installed, the trigger reset device is classified as a combination of parts designed and intended, solely and exclusively, for use in converting a weapon into a machinegun; thus, it is a "**machinegun**" as defined in 26 U.S.C. § 5845(b). This classification is based on an evaluation of the item as submitted and whether the item converts a weapon to fire automatically, regardless of how reliably it shoots automatically more than one

-3-

[REDACTED]

shot without manual reloading by a single function of the trigger. The submitted device cannot be returned to unless you are a licensed firearms manufacturer who has paid the Special Occupational Tax.

Please be aware, our Branch has evaluated similar devices which have prevented the trigger from positively resetting and resulted in a hammer-follow scenario. If a device is designed to assist in the prevention of the hammer from positively resetting, such an item could cause a firearm to shoot automatically more than one shot without manual reloading by a single function of the trigger, and would be classified as a combination of parts designed and intended, solely and exclusively, for use in converting a weapon into a machinegun; thus, it is a "machinegun" as defined in 26 U.S.C. § 5845(b).

FTISB finds that the host AR-type firearm, Bushmaster AR-type receiver (serial number BK1700801), not having any modifications made which would cause it to fire automatically, or incorporating the frame or receiver of a machinegun; is not a "machinegun" as defined in 26 U.S.C. § 5845(b).

The subject Bushmaster firearm will be returned to you as soon as our Branch has received either a FedEx (or alternate carrier) account number, or a prepaid return label. Please advise our Branch within 60 days of receipt of this letter regarding the disposition of this Bushmaster firearm.

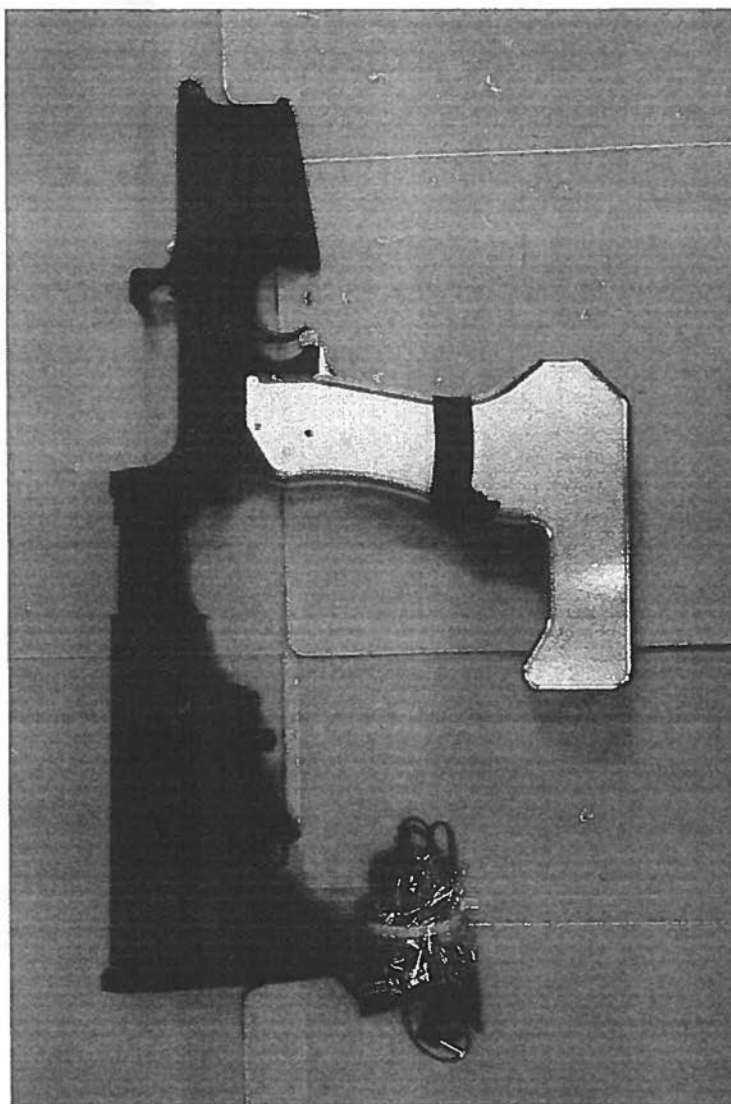
We trust the foregoing has been responsive to your current evaluation request and await your submission of a functioning exemplar.

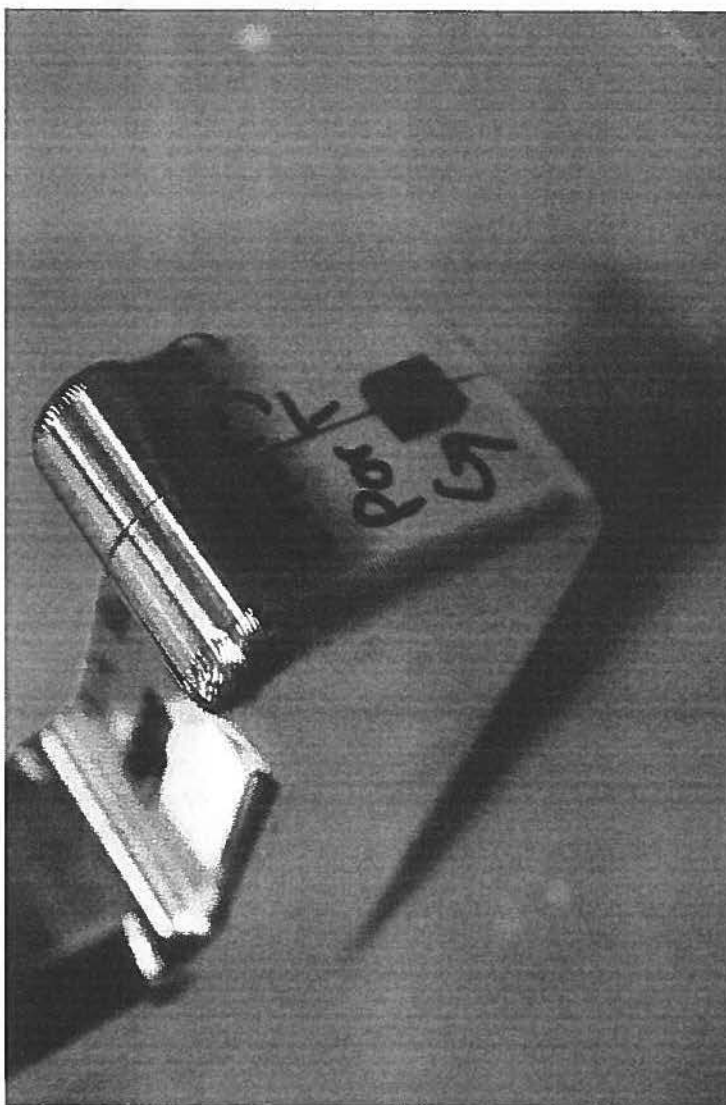
Sincerely yours,

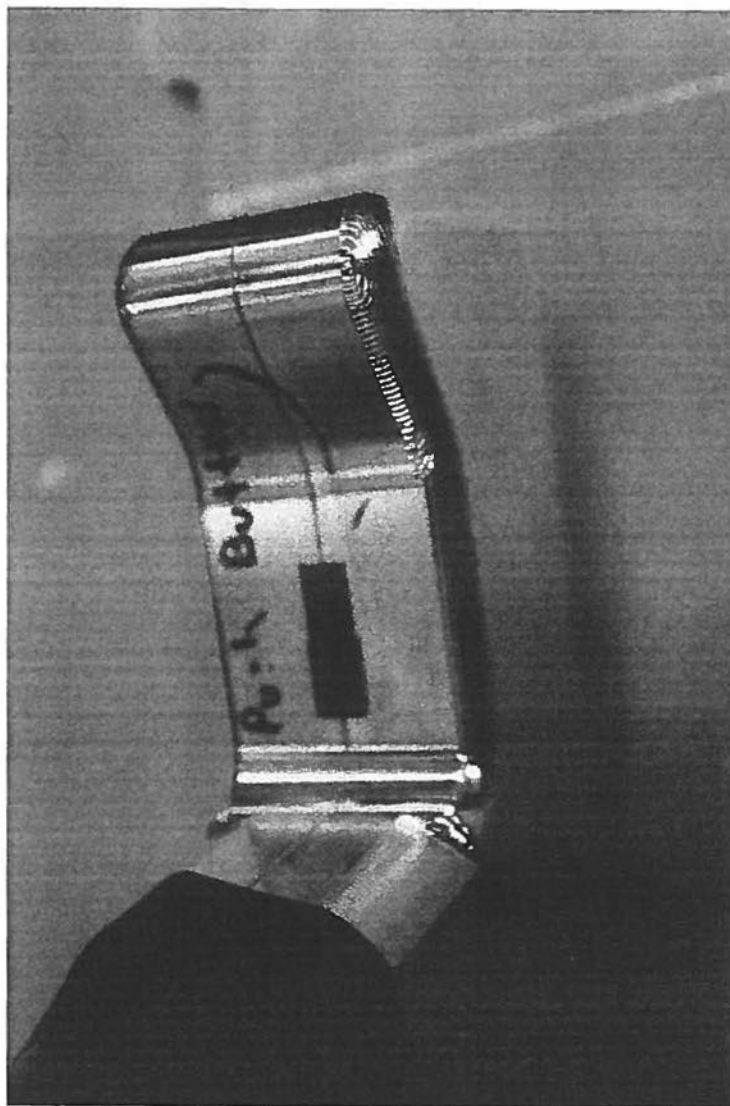


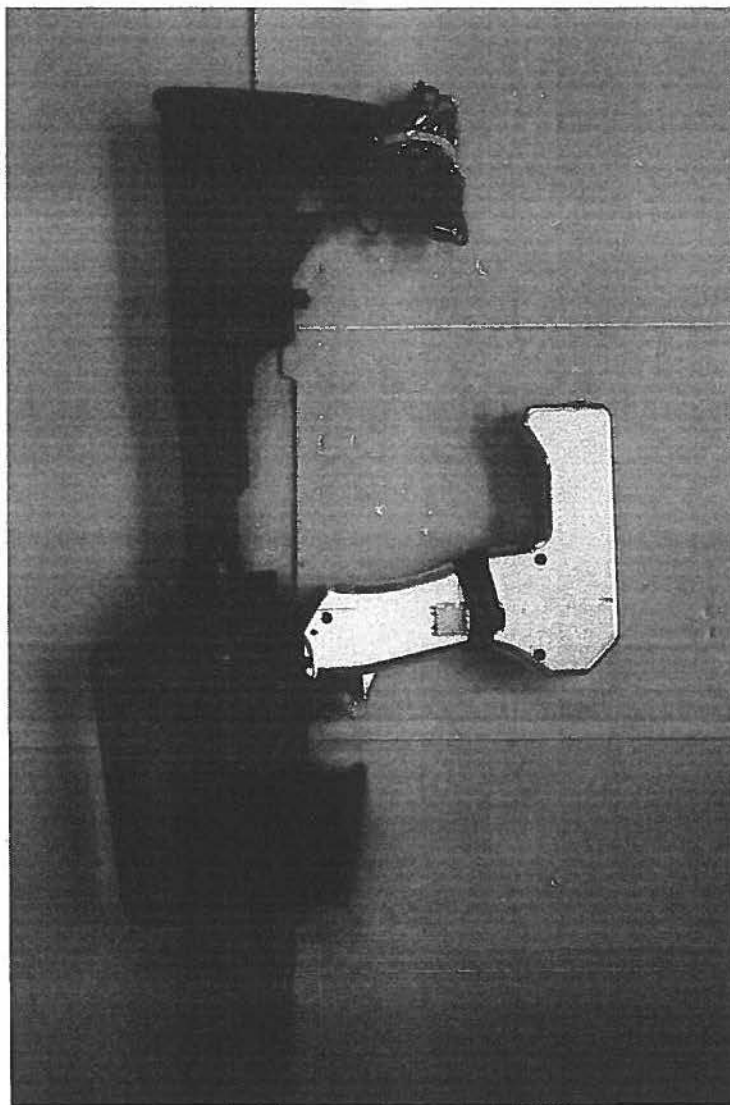
Michael R. Curtis
Chief, Firearms Technology Industry Services Branch

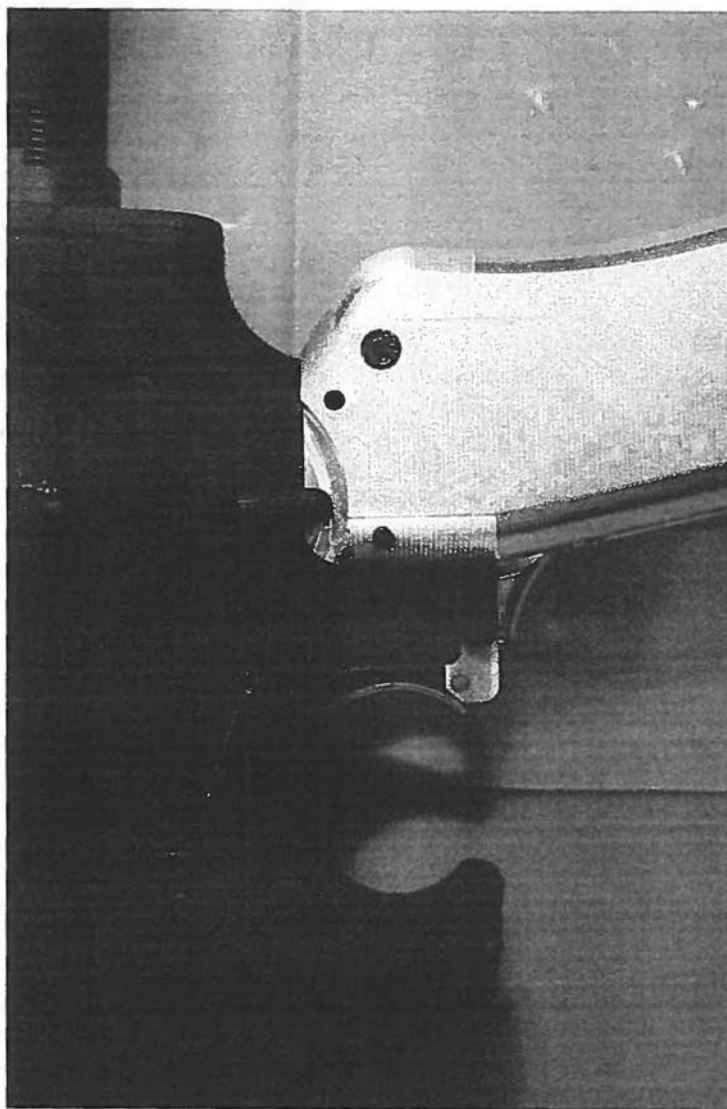
Enclosure

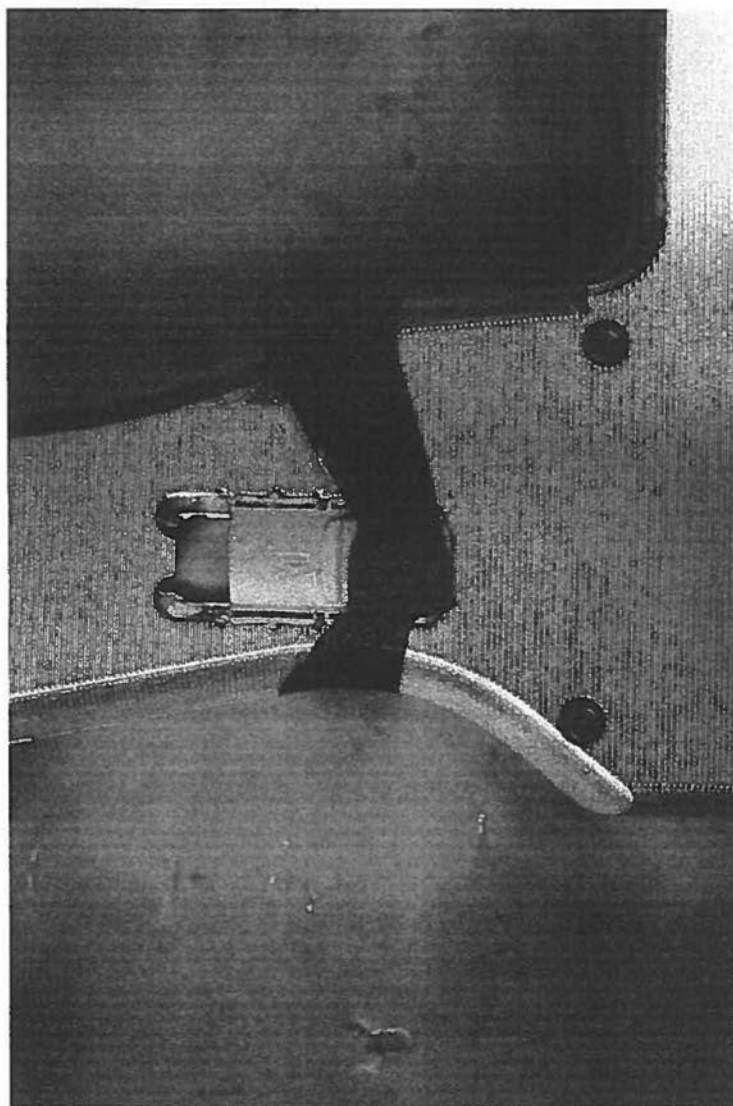


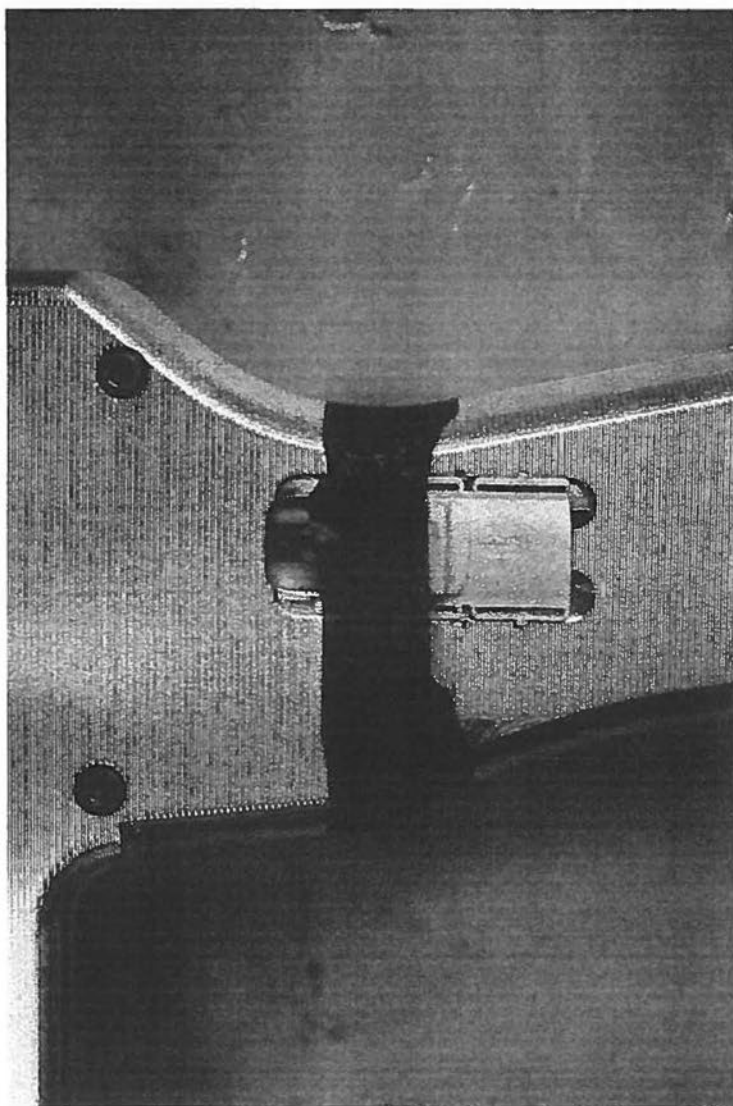


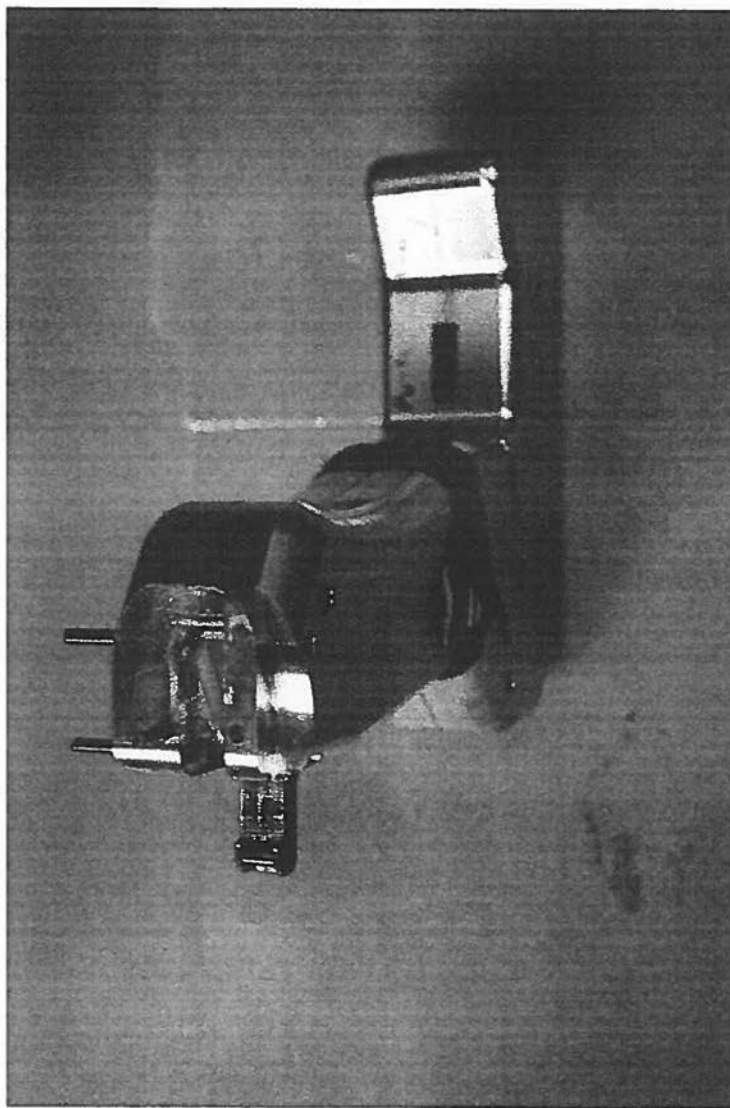


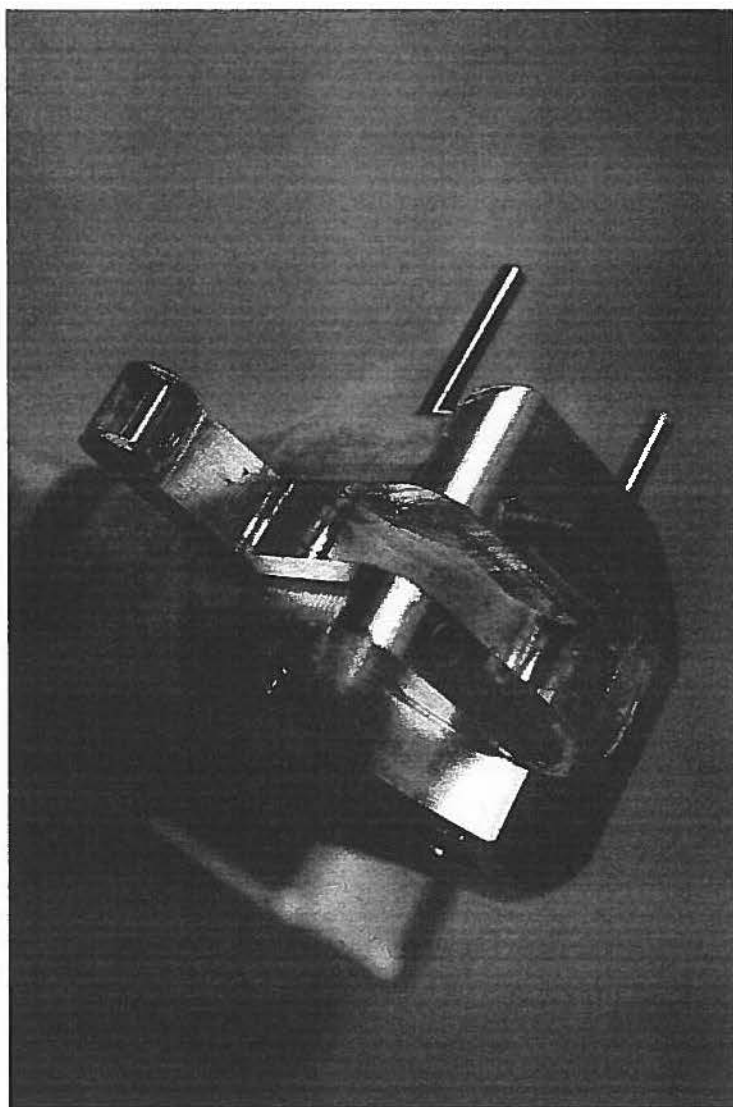


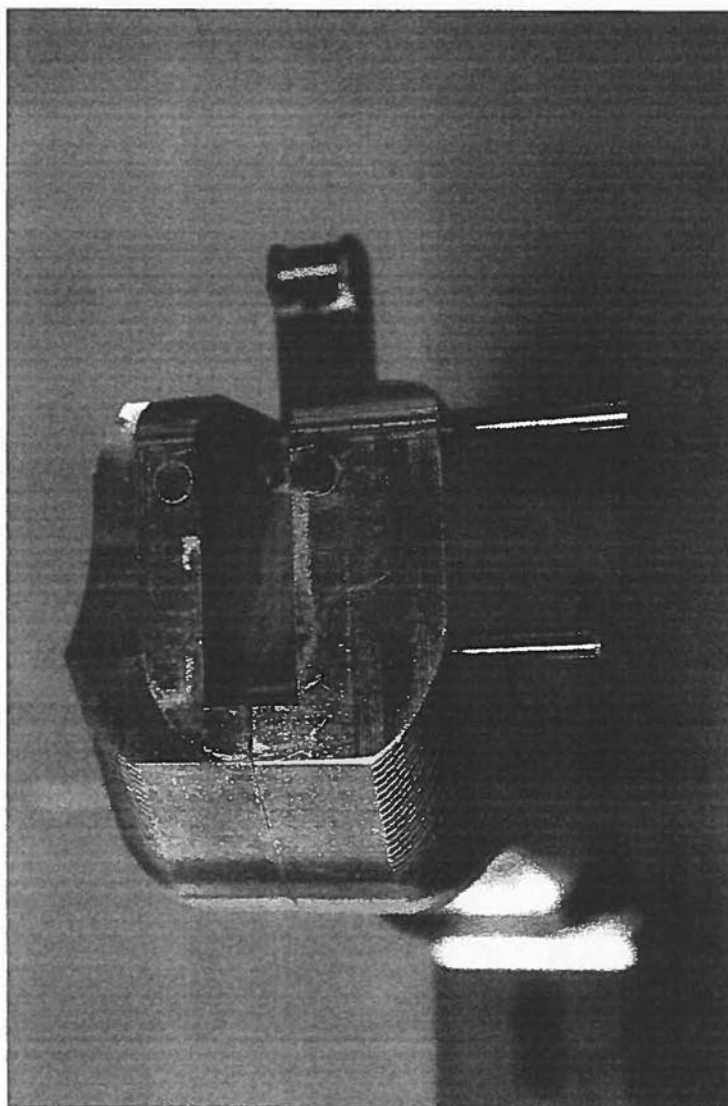


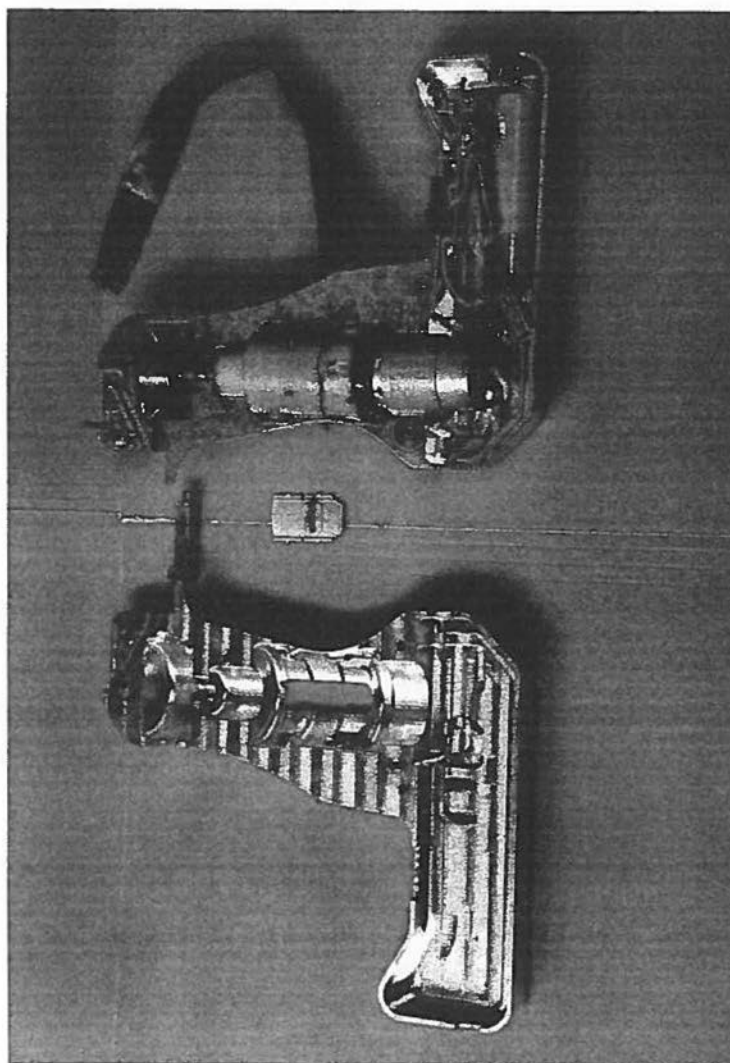


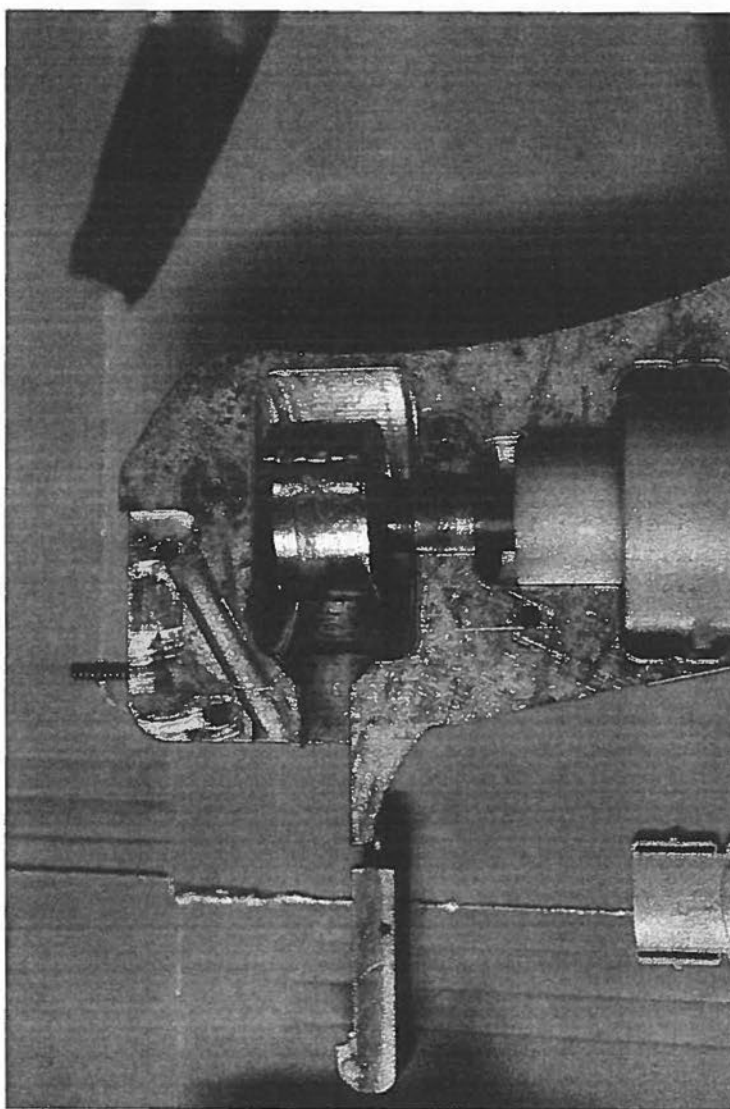




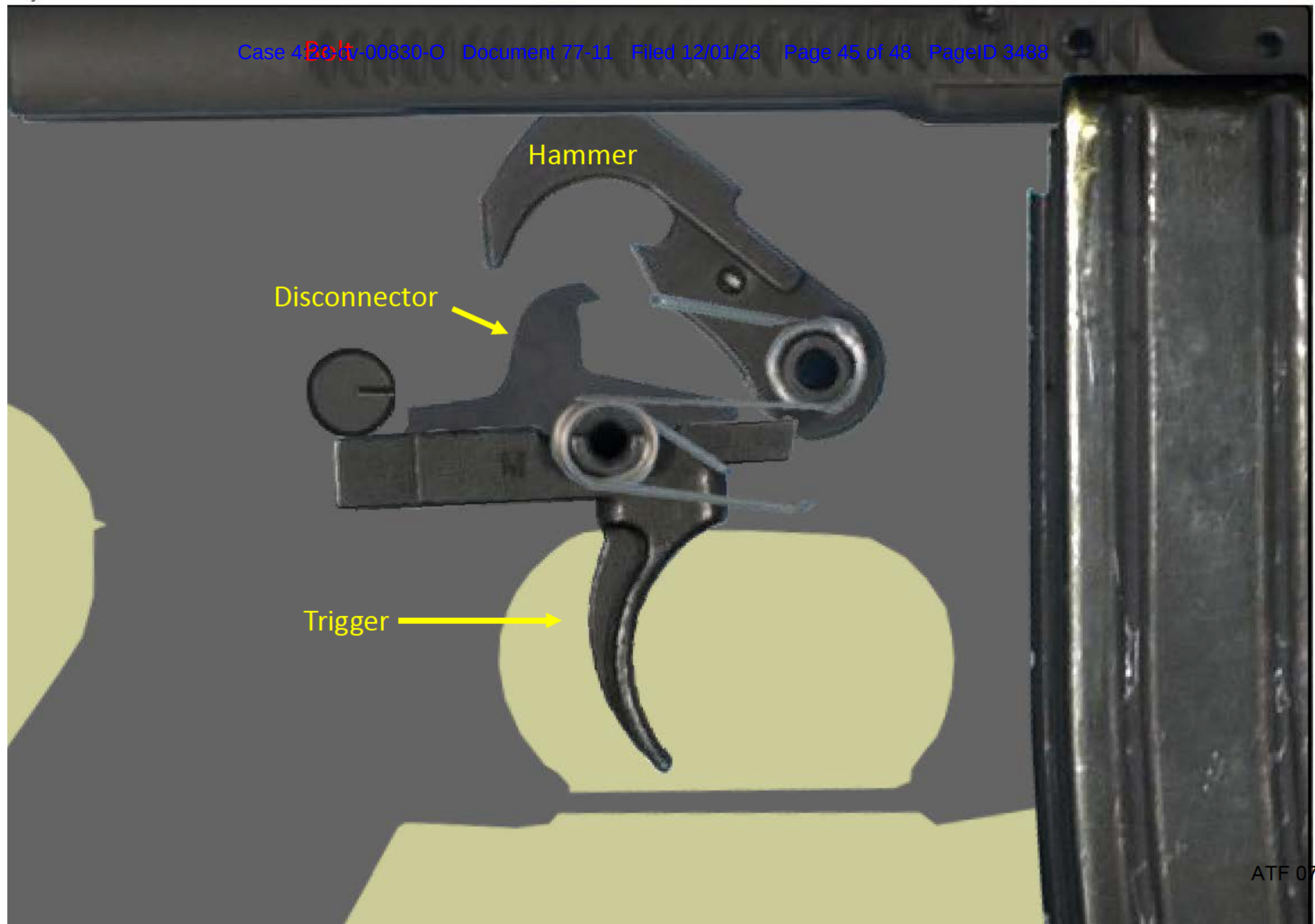




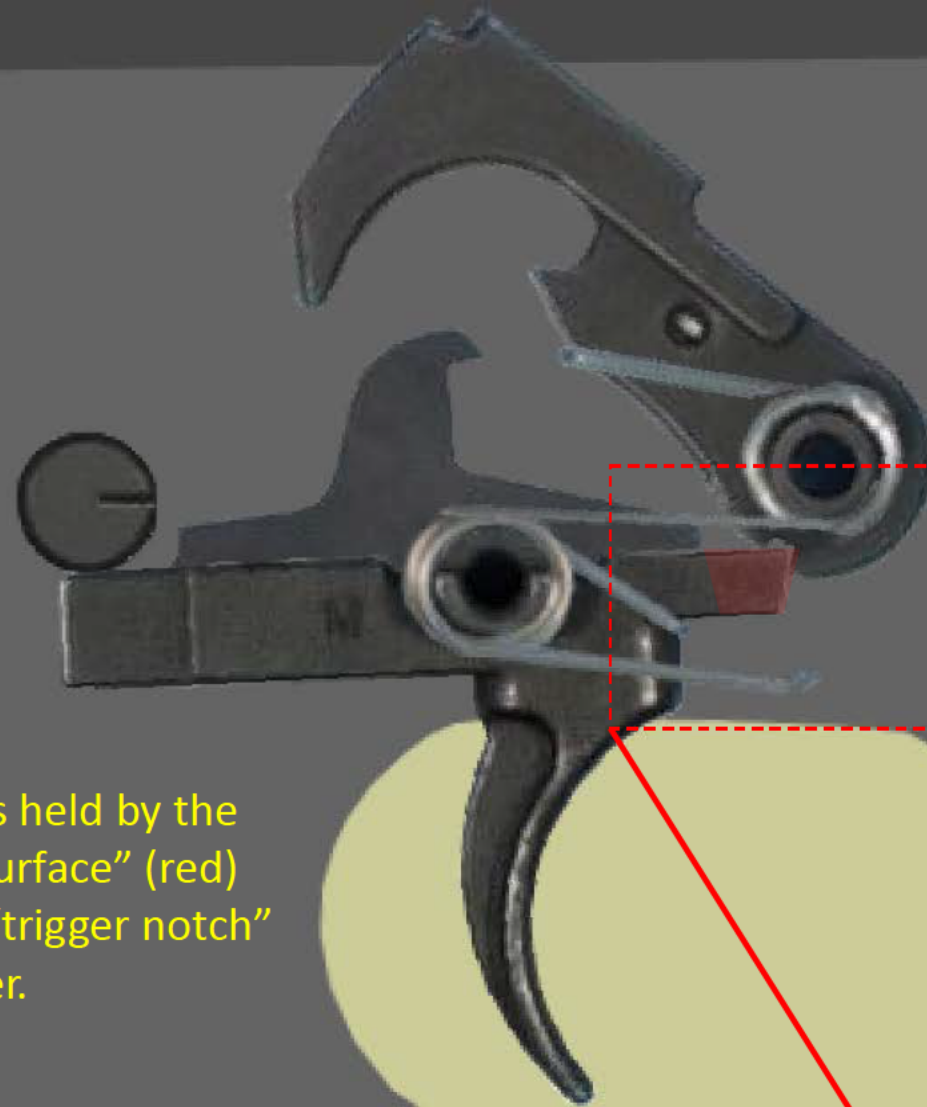








The hammer is held by the
“trigger sear surface” (red)
engaging the “trigger notch”
on the hammer.



Selector moved
to "fire"

Trigger Pulled

